

Service Hints



TH-P65V10Z

Plasma Television

<PDP 2009 Model>

TH-P65/58/50V10Z

TH-P50/42G10Z

TH-P50/46/42S10Z

TH-P50/42X10Z

Troubleshooting Guide

- Ver 2.0-

This service hints is published for technicians and engineers for repair. And it gives you the information how to judge the defective board of PDP. In the future, we will improve the contents for more easy diagnostic and trouble shooting.

Please file and use this Service Hints together with the main service manual and other publications related to models.

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

© Panasonic Corporation 2009.
Unauthorized copying and distribution is a violation of law.

1. 2009 PDP Line up & Feature Comparison -----	P3
2. PCB Location & Function -----	P5
3. PCB List -----	P10
4. Block Diagram -----	P12
5. Troubleshooting -----	P17
6. Service Information -----	P24

1. 2009 PDP Line up & Feature Comparison

1. 2009 PDP Line up & Feature Comparison

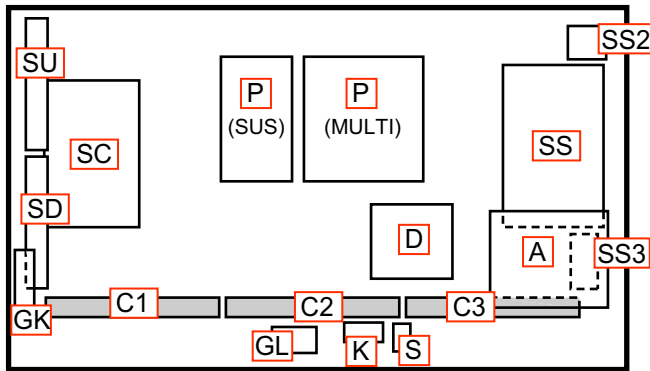
		V10 Series	G10 Series	S10 Series	X10 Series
					
Picture	Size	65/58/50	50/42	50/46/42	50/42
	Panel	Full-HD NeoPDP	Full-HD NeoPDP	Full-HD PDP	HD PDP
	AR Filter	Y	Y	Y	Y
	Contrast Ratio	40,000:1	40,000:1	50 inch : 40,000:1 46/42inch : 30,000:1	30,000:1
	Moving Picture Resolution	1080 lines	1080 lines	1080 lines	720 lines
	600 Hz Sub-Field Drive	Y	Y	N (550Hz)	Y
	24p Smooth Film	Y	Y	—	—
	Digital Cinema Colour	Y	Y	—	—
	Shades of Gradation	6144	6144	5120	5120
	Deep Colour (10/12-bit)	Y	Y	—	—
	x.v. Colour	Y	Y	Y	Y
	THX Mode	Y	Y	—	—
	3D Colour Management	Y	Y	Y	Y
	Sub Pixel Control	Y	Y	Y	Y
	C.A.T.S.	Y	Y	Y	Y
Sound	Speakers	Full-Range	Full-Range	Full-Range	Full-Range
Networking	VIERA Image Viewer	Y (AVCHD/MPEG2/ JPEG playback)	Y (AVCHD/MPEG2/ JPEG playback)	Y (AVCHD/MPEG2/ JPEG playback)	Y (AVCHD/MPEG2/ JPEG playback)
	HDMI Input	4	3	3	3
	PC Input	Y	Y	Y	Y
	LAN Port	—	—	—	—
	VIERA Cast	—	—	—	—
	VIERA Tools	Y	Y	Y	Y
	VIERA Link (HDAVI Control 4)	Y	Y	Y	Y
	Game Mode	Y	Y	Y	Y

2. PCB Location & Function

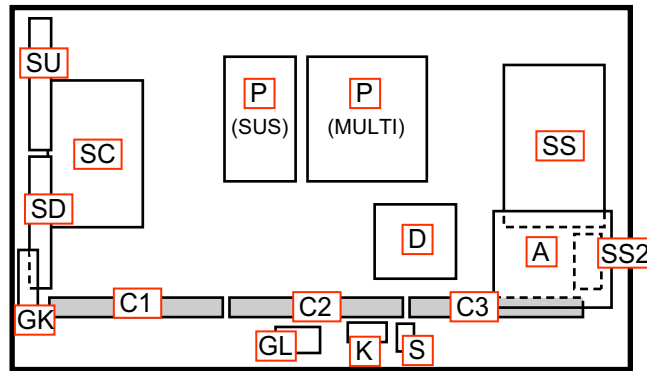
2. PCB Location & Function

V10 Series

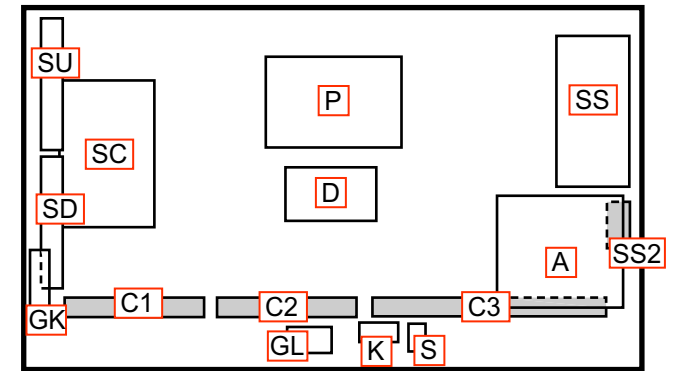
TH-P65V10Z



TH-P58V10Z



TH-P50V10Z



Board Name	Function	Parts Number
P	Power Supply (SUS)	ETX2MM774MG
	Power Supply (MULTI)	ETX2MM774MA
A	DC-DC Converter, Tuner, Speaker out, AV Terminal, AV Switch, PC, Digital Signal Processor, SYSTEM MPU, HDMI Switch, Peaks-AVC,	TXN/A1DRUP
D	Format Converter, Plasma AI, Sub-Field Processor	TZTNP02DNUM
K	Remote receiver, Power LED, C.A.T.S sensor	TNPA4857AC
S	Power Switch	TNPA4858AB
GK	Key Switch	TNPA4875AB
GL	SD LED	TNPA4693AB
C1	Data Driver (Lower Right)	TNPA4990
C2	Data Driver (Lower Center)	TNPA4991
C3	Data Driver (Lower Left)	TNPA4992
SC	Scan Drive	TXNSC1DNUJ
SS	Sustain Drive	TXNSS1DNUJ
SS2	Sustain out (Upper)	TNPA4983
SS3	Sustain out (Lower)	TNPA4984
SU	Scan out (Upper),Not repairable. SU-Board should be exchanged for service.	TNPA4981
SD	Scan out (Lower),Not repairable. SD-Board should be exchanged for service.	TNPA4982

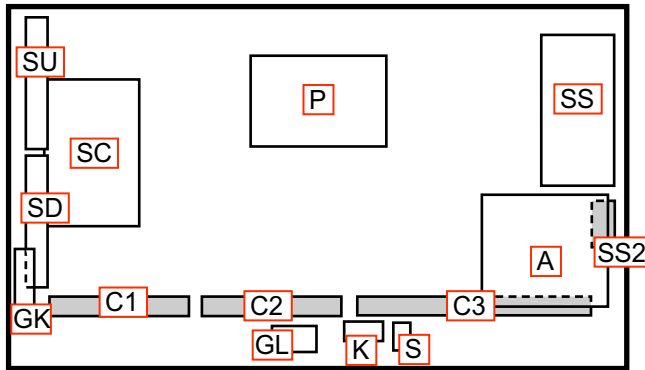
Board Name	Function	Parts Number
P	Power Supply (SUS)	ETX2MM774MF
	Power Supply (MULTI)	ETX2MM774MA
A	DC-DC Converter, Tuner, Speaker out, AV Terminal, AV Switch, PC, Digital Signal Processor, SYSTEM MPU, HDMI Switch, Peaks-AVC	TXN/A1DRUP
D	Format Converter, Plasma AI, Sub-Field Processor	TZTNP02DPUM
K	Remote receiver, Power LED, C.A.T.S sensor	TNPA4857AC
S	Power Switch	TNPA4858AB
GK	Key Switch	TXNGK1DRUM
GL	SD LED	TNPA4693AB
C1	Data Driver (Lower Right)	TNPA4987
C2	Data Driver (Lower Center)	TNPA4988
C3	Data Driver (Lower Left)	TNPA4989
SC	Scan Drive	TXNSC1DPUJ
SS	Sustain Drive	TXNSS1DPUJ
SS2	Sustain out (Lower)	TNPA4980
SU	Scan out (Upper),Not repairable. SU-Board should be exchanged for service.	TNPA4976
SD	Scan out (Lower),Not repairable. SD-Board should be exchanged for service.	TNPA4977

Board Name	Function	Parts Number
P	Power Supply	ETX2MM747MFK
A	DC-DC Converter, Tuner, Speaker out, AV Terminal, AV Switch, PC, Digital Signal Processor, SYSTEM MPU, HDMI Switch, Peaks-AVC,	TXN/A1DRUP
D	Format Converter, Plasma AI, Sub-Field Processor	TZTNP02DRUM
K	Remote receiver, Power LED, C.A.T.S sensor	TNPA4857AC
S	Power Switch	TNPA4858AB
GK	Key Switch	TXNGK1DRUM
GL	SD LED	TNPA4693AB
C1	Data Driver (Lower Right)	TNPA4767
C2	Data Driver (Lower Center)	TNPA4768
C3	Data Driver (Lower Left)	TNPA4769
SC	Scan Drive	TNPA4782AF
SS	Sustain Drive	TNPA4783AF
SS2	Sustain out (Lower)	TNPA4804
SU	Scan out (Upper),Not repairable. SU-Board should be exchanged for service.	TNPA4788
SD	Scan out (Lower),Not repairable. SD-Board should be exchanged for service.	TNPA4789

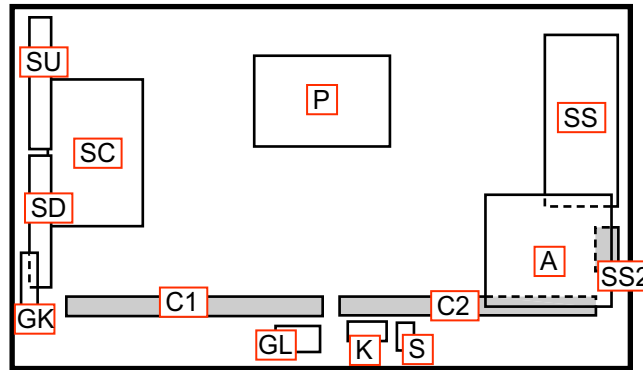
2. PCB Location & Function

G10 Series

TH-P50G10Z



TH-P42G10Z



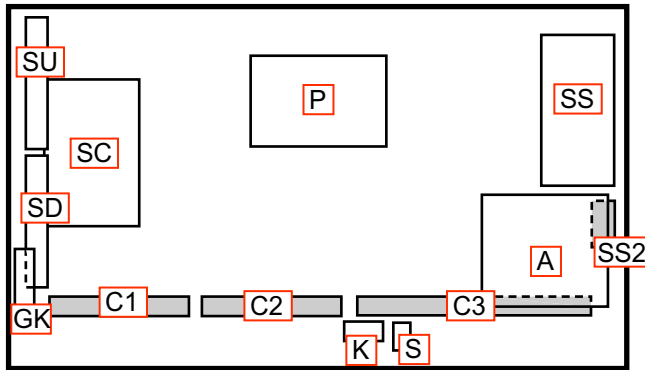
Board Name	Function	Parts Number
P	Power Supply	ETX2MM747MFK
A	DC-DC Converter, Tuner, Speaker out, AV Terminal, AV Switch, PC, Digital Signal Processor, SYSTEM MPU, HDMI Switch, Peaks-AVC, Format Converter, Plasma AI, Sub-Field Processor	TZTNP01DZUP
K	Remote receiver, Power LED, C.A.T.S sensor	TXN/K1EQUC
GL	SD LED	TXNGL1DYUC
S	Power Switch	TXN/S1EQUC
GK	Key Switch	TXNGK1EQUC
C1	Data Driver (Lower Right)	TNPA4767
C2	Data Driver (Lower Center)	TNPA4768
C3	Data Driver (Lower Left)	TNPA4769
SC	Scan Drive	TNPA4782AB
SS	Sustain Drive	TNPA4783AB
SS2	Sustain out (Lower)	TNPA4804
SU	Scan out (Upper),Not repairable. SU-Board should be exchanged for service.	TNPA4788
SD	Scan out (Lower),Not repairable. SD-Board should be exchanged for service.	TNPA4789

Board Name	Function	Parts Number
P	Power Supply	ETX2MM747MFF
A	DC-DC Converter, Tuner, Speaker out, AV Terminal, AV Switch, PC, Digital Signal Processor, SYSTEM MPU, HDMI Switch, Peaks-AVC, Format Converter, Plasma AI, Sub-Field Processor	TZTNP01EBUP
K	Remote receiver, Power LED, C.A.T.S sensor	TXN/K1EQUC
GL	SD LED	TXNGL1DYUC
S	Power Switch	TXN/S1EQUC
GK	Key Switch	TXNGK1EQUC
C1	Data Driver (Lower Right)	TNPA4762
C2	Data Driver (Lower Left)	TNPA4763
SC	Scan Drive	TNPA4844AD
SS	Sustain Drive	TNPA4783AD
SS2	Sustain out (Lower)	TNPA4802
SU	Scan out (Upper),Not repairable. SU-Board should be exchanged for service.	TNPA4784
SD	Scan out (Lower),Not repairable. SD-Board should be exchanged for service.	TNPA4785

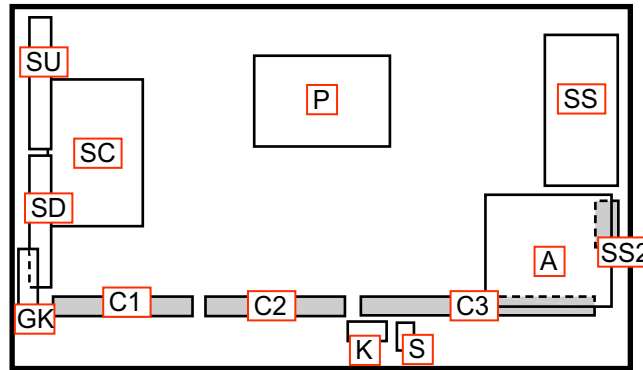
2. PCB Location & Function

S10 Series

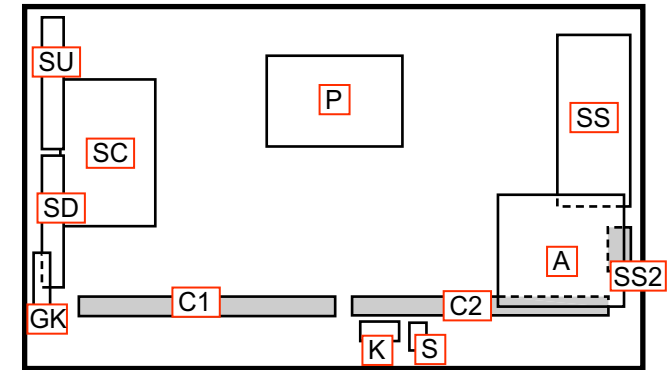
TH-P50S10Z



TH-P46S10Z



TH-P42S10Z



Board Name	Function	Parts Number
P	Power Supply	ETX2MM747MFG
A	DC-DC Converter, Tuner, Speaker out, AV Terminal, AV Switch, PC, Digital Signal Processor, SYSTEM MPU, HDMI Switch, Peaks-AVC, Format Converter, Plasma AI, Sub-Field Processor	TZTNP01EDUP
K	Remote receiver, Power LED, C.A.T.S sensor	TXN/K1EQUC
S	Power Switch	TXN/S1EQUC
GK	Key Switch	TXNGK1EQUC
C1	Data Driver (Lower Right)	TNPA4767
C2	Data Driver (Lower Center)	TNPA4768
C3	Data Driver (Lower Left)	TNPA4769
SC	Scan Drive	TXNSC1EDUC
SS	Sustain Drive	TXNSS1EDUC
SS2	Sustain out (Lower)	TNPA4804
SU	Scan out (Upper),Not repairable. SU-Board should be exchanged for service.	TNPA4788AC
SD	Scan out (Lower),Not repairable. SD-Board should be exchanged for service.	TNPA4789AC

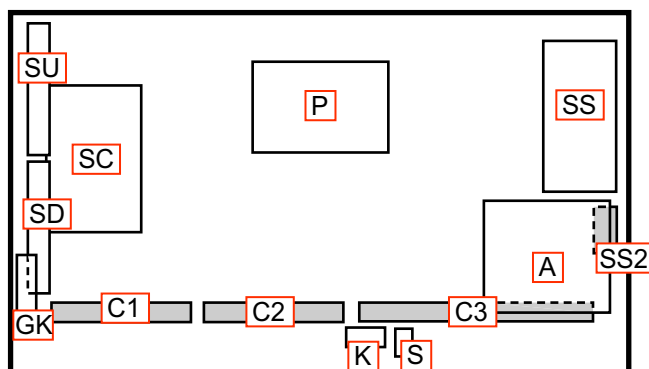
Board Name	Function	Parts Number
P	Power Supply	ETX2MM747MFG
A	DC-DC Converter, Tuner, Speaker out, AV Terminal, AV Switch, PC, Digital Signal Processor, SYSTEM MPU, HDMI Switch, Peaks-AVC, Format Converter, Plasma AI, Sub-Field Processor	TZTNP01EEUP
K	Remote receiver, Power LED, C.A.T.S sensor	TXN/K1EQUC
S	Power Switch	TXN/S1EQUC
GK	Key Switch	TXNGK1EQUC
C1	Data Driver (Lower Right)	TNPA4764
C2	Data Driver (Lower Center)	TNPA4765
C3	Data Driver (Lower Left)	TNPA4766
SC	Scan Drive	TXNSC1EEUC
SS	Sustain Drive	TXNSS1EEUC
SS2	Sustain out (Lower)	TNPA4802
SU	Scan out (Upper),Not repairable. SU-Board should be exchanged for service.	TNPA4786AC
SD	Scan out (Lower),Not repairable. SD-Board should be exchanged for service.	TNPA4787AC

Board Name	Function	Parts Number
P	Power Supply	ETX2MM747MFE
A	DC-DC Converter, Tuner, Speaker out, AV Terminal, AV Switch, PC, Digital Signal Processor, SYSTEM MPU, HDMI Switch, Peaks-AVC, Format Converter, Plasma AI, Sub-Field Processor	TZTNP03EFUP
K	Remote receiver, Power LED, C.A.T.S sensor	TXN/K1EQUC
S	Power Switch	TXN/S1EQUC
GK	Key Switch	TXNGK1EQUC
C1	Data Driver (Lower Right)	TNPA4762
C2	Data Driver (Lower Left)	TNPA4763
SC	Scan Drive	TXNSC1EFUC
SS	Sustain Drive	TXNSS1EFUC
SS2	Sustain out (Lower)	TNPA4802
SU	Scan out (Upper),Not repairable. SU-Board should be exchanged for service.	TNPA4784
SD	Scan out (Lower),Not repairable. SD-Board should be exchanged for service.	TNPA4785

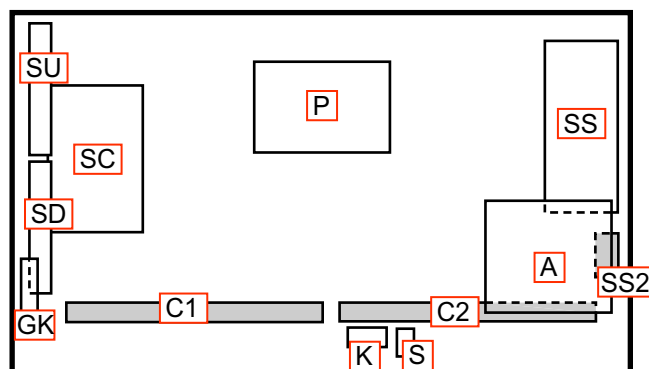
2. PCB Location & Function

X10 Series

TH-P50X10Z



TH-P42X10Z



Board Name	Function	Parts Number
P	Power Supply	LSEP1279EEHB
A	DC-DC Converter, Tuner, Speaker out, AV Terminal, AV Switch, Digital Signal Processor, SYSTEM MPU, HDMI Switch, Peaks-lite2p, Format Converter, Plasma AI, Sub-Field Processor	TZTNP01EPUP
K	Remote receiver, Power LED, C.A.T.S sensor	TXN/K1EQUC
S	Power Switch	TXN/S1EQUC
GK	Key Switch	TXNGK1EQUC
C1	Data Driver (Lower Right)	TXNC11EPUC
C2	Data Driver (Lower Center)	TXNC21EPUC
C3	Data Driver (Lower Left)	TXNC31EPUC
SC	Scan Drive	TXNSC1EPUC
SS	Sustain Drive	TXNSS1EPUC
SS2	Sustain out (Lower)	TXNSS21EPUC
SU	Scan out (Upper),Not repairable. SU-Board should be exchanged for service.	TXNSU1EPUC
SD	Scan out (Lower),Not repairable. SD-Board should be exchanged for service.	TXNSD1EPUC

Board Name	Function	Parts Number
P	Power Supply	LSEP1279BEHB
A	DC-DC Converter, Tuner, Speaker out, AV Terminal, AV Switch, Digital Signal Processor, SYSTEM MPU, HDMI Switch, Peaks-lite2p, Format Converter, Plasma AI, Sub-Field Processor	TZTNP01EQUP
K	Remote receiver, Power LED, C.A.T.S sensor	TXN/K1EQUC
S	Power Switch	TXN/S1EQUC
GK	Key Switch	TXNGK1EQUC
C1	Data Driver (Lower Right)	TNPA4892
C2	Data Driver (Lower Left)	TNPA4893
SC	Scan Drive	TXNSC1EQUA
SS	Sustain Drive	TXNSS1EQUC
SS2	Sustain out (Lower)	TNPA4807
SU	Scan out (Upper),Not repairable. SU-Board should be exchanged for service.	TXNSU1EQUA
SD	Scan out (Lower),Not repairable. SD-Board should be exchanged for service.	TXNSD1EQUA

3. PCB List

3. PCB List

	V10 series			G10 series		S10 series			X10 series	
Board	TH-P65V10Z	TH-P58V10Z	TH-P50V10Z	TH-P50G10Z	TH-P42G10Z	TH-P50S10Z	TH-P46S10Z	TH-P42S10Z	TH-P50X10Z	TH-P42X10Z
P(SUS)	ETX2MM774MG	ETX2MM774MF	ETX2MM747MFK	ETX2MM747MFK	ETX2MM747MFF	ETX2MM747MFG	ETX2MM747MFG	ETX2MM747MFE	LSEP1279EEHB	LSEP1279BEHB
P(MULTI)	ETX2MM774MA	ETX2MM774MA	----	----	----	----	----	----	----	----
A	TXN/A1DRUP	TXN/A1DRUP	TXN/A1DRUP	TZTNP01DZUP	TZTNP01EBUP	TZTNP01EDUP	TZTNP01EEUP	TZTNP03EFUP	TZTNP01EPUP	TZTNP01EQUP
D	TZTNP02DNUM	TZTNP02DPUM	TZTNP02DRUM	----	----	----	----	----	----	----
K	TNPA4857AC	TNPA4857AC	TNPA4857AC	TXN/K1EQUC	TXN/K1EQUC	TXN/K1EQUC	TXN/K1EQUC	TXN/K1EQUC	TXN/K1EQUC	TXN/K1EQUC
S	TNPA4858AB	TNPA4858AB	TNPA4858AB	TXN/S1EQUC	TXN/S1EQUC	TXN/S1EQUC	TXN/S1EQUC	TXN/S1EQUC	TXN/S1EQUC	TXN/S1EQUC
GK	TNPA4875AB	TXNGK1DRUM	TXNGK1DRUM	TXNGK1EQUC	TXNGK1EQUC	TXNGK1EQUC	TXNGK1EQUC	TXNGK1EQUC	TXNGK1EQUC	TXNGK1EQUC
GL	TNPA4693AB	TNPA4693AB	TNPA4693AB	TXNGL1DYUC	TXNGL1DYUC	----	----	----	----	----
C1	TNPA4990	TNPA4987	TNPA4767	TNPA4767	TNPA4762	TNPA4767	TNPA4764	TNPA4762	TXNC11EPUC	TNPA4892
C2	TNPA4991	TNPA4988	TNPA4768	TNPA4768	TNPA4763	TNPA4768	TNPA4765	TNPA4763	TXNC21EPUC	TNPA4893
C3	TNPA4992	TNPA4989	TNPA4769	TNPA4769	----	TNPA4769	TNPA4766	----	TXNC31EPUC	----
SC	TXNSC1DNUJ	TXNSC1DPUJ	TNPA4782AF	TNPA4782AB	TNPA4844AD	TXNSC1EDUC	TXNSC1EEUC	TXNSC1EFUC	TXNSC1EPUC	TXNSC1EQUA
SS	TXNSS1DNUJ	TXNSS1DPUJ	TNPA4783AF	TNPA4783AB	TNPA4783AD	TXNSS1EDUC	TXNSS1EEUC	TXNSS1EFUC	TXNSS1EPUC	TXNSS1EQUC
SS2	TNPA4983	TNPA4980	TNPA4804	TNPA4804	TNPA4802	TNPA4804	TNPA4802	TNPA4802	TXNSS21EPUC	TNPA4807
SS3	TNPA4984	----	----	----	----	----	----	----	----	----
SU	TNPA4981	TNPA4976	TNPA4788	TNPA4788	TNPA4784	TNPA4788AC	TNPA4786AC	TNPA4784	TXNSU1EPUC	TXNSU1EQUA
SD	TNPA4982	TNPA4977	TNPA4789	TNPA4789	TNPA4785	TNPA4789AC	TNPA4787AC	TNPA4785	TXNSD1EPUC	TXNSD1EQUA

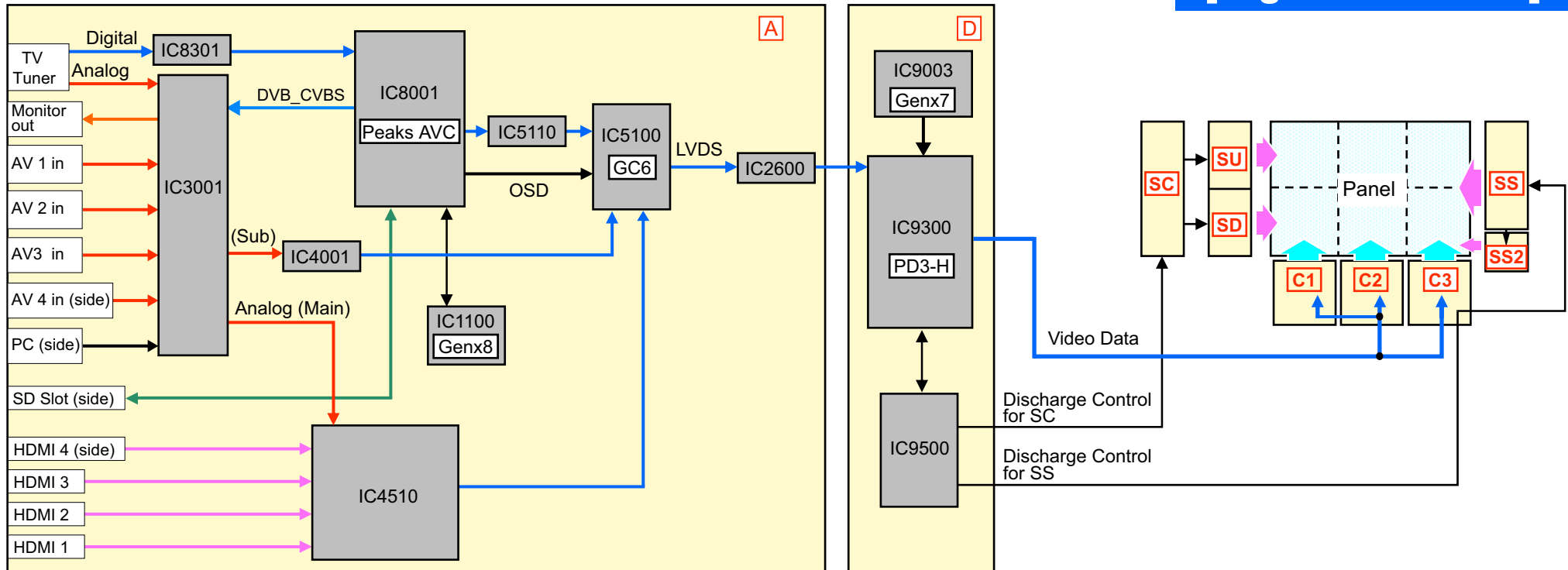
4. Block Diagram

4. Block Diagram

Signal Processing Circuit (1) V10 Series

<PCB Function>

[e.g. TH-P50V10Z]



IC8301
: Front End Processor

IC3001
: AV Switch

IC4001
: GC3FS next

IC4510
: HDMI I/F, 10bit A/D

IC8001
: Peaks AVC (MAIN MPU+VIDEO PROCESSOR)

IC5110
: LVDS RX

IC5100
: GC6
Video Processor IC (Format Converter)
LVDS Transmitter

IC2600
: FRC-Q

IC1100
: Genx8 (SYSTEM MPU)

IC9300
: PD3-H
LVDS Receiver,
Sub Field Processor,
Data Driver Processor
Plasma AI

IC9500
: FPGA (Discharge Control)

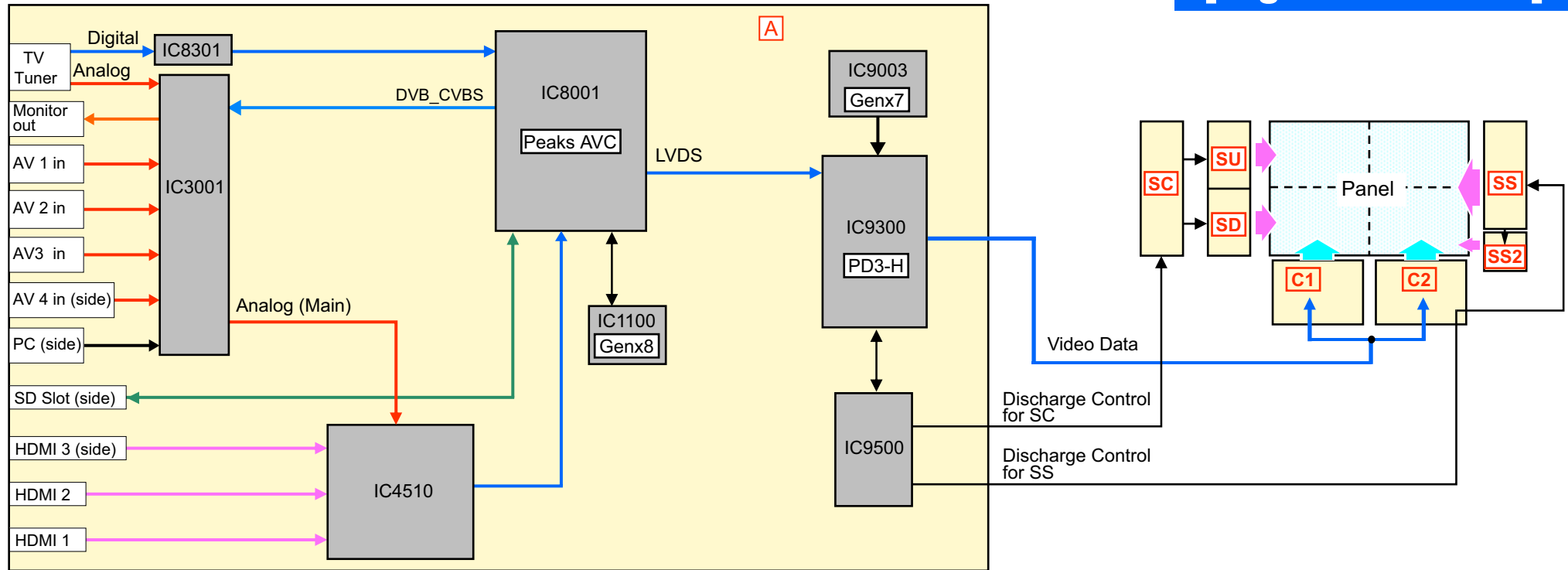
IC9003
: Genx7 (Panel Micom)

4. Block Diagram

Signal Processing Circuit (2) G10 Series

<PCB Function>

[e.g. TH-P42G10Z]



IC8301
: Front End Processor
IC3001
: AV Switch

IC4510
: HDMI I/F, 10bit A/D
IC8001
: Peaks AVC (MAIN MPU+VIDEO PROCESSOR)
IC1100
: Genx8 (SYSTEM MPU)

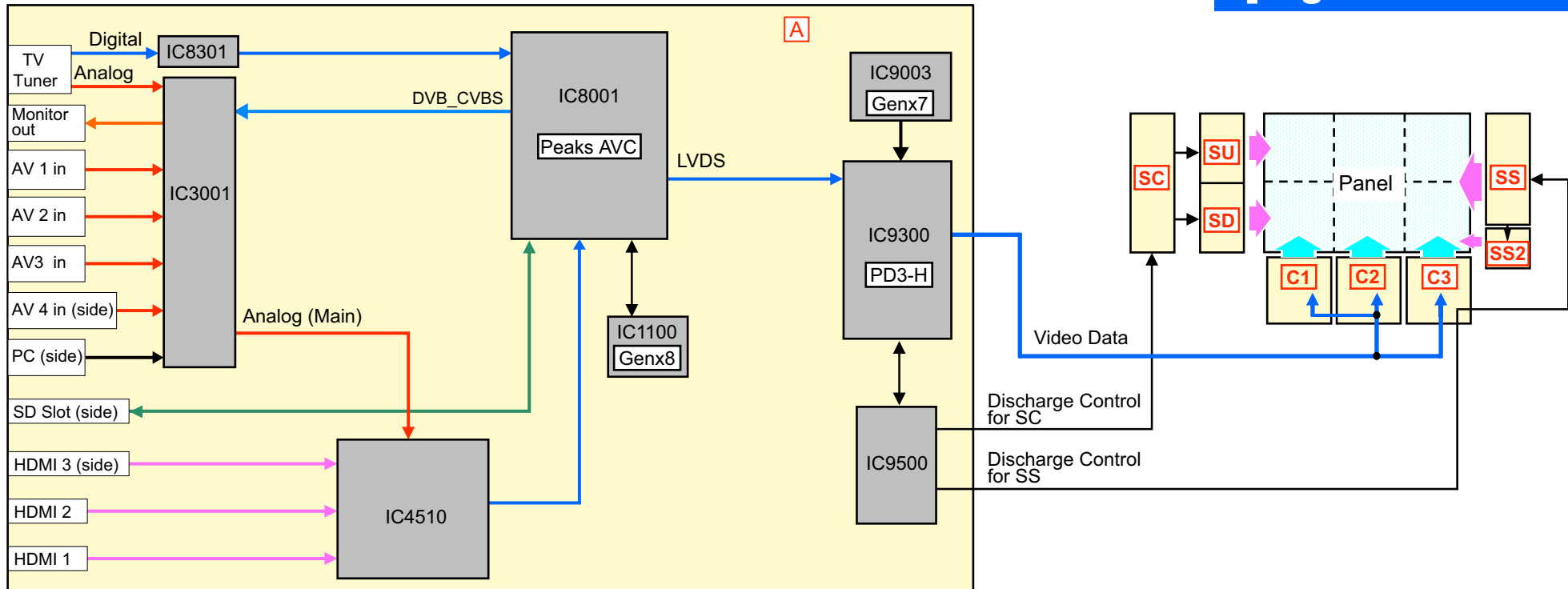
IC9300
: PD3-H
[LVDS Receiver,
Sub Field Processor,
Data Driver Processor
Plasma AI]
IC9500
: FPGA (Discharge Control)
IC9003
: Genx7 (Panel Micom)

4. Block Diagram

Signal Processing Circuit (3) S10 Series

<PCB Function>

[e.g. TH-P50S10Z]



IC8301
: Front End Processor
IC3001
: AV Switch

IC4510
: HDMI I/F, 10bit A/D
IC8001
: Peaks AVC (MAIN MPU+VIDEO PROCESSOR)
IC1100
: Genx8 (SYSTEM MPU)

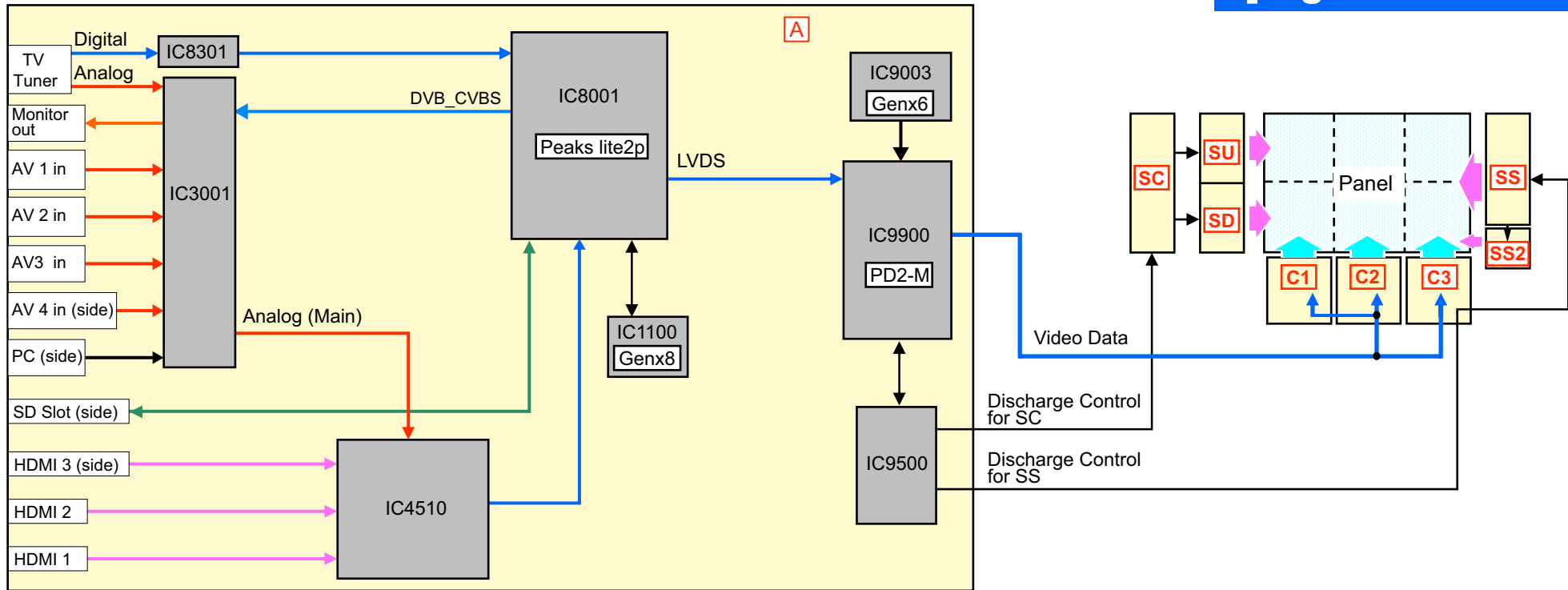
IC9300
: PD3-H
LVDS Receiver,
Sub Field Processor,
Data Driver Processor
Plasma AI
IC9500
: FPGA (Discharge Control)
IC9003
: Genx7 (Panel Micom)

4.Block Diagram

Signal Processing Circuit (4) X10 Series

<PCB Function>

[e.g. TH-P50X10Z]



IC8301
: Front End Processor
IC3001
: AV Switch

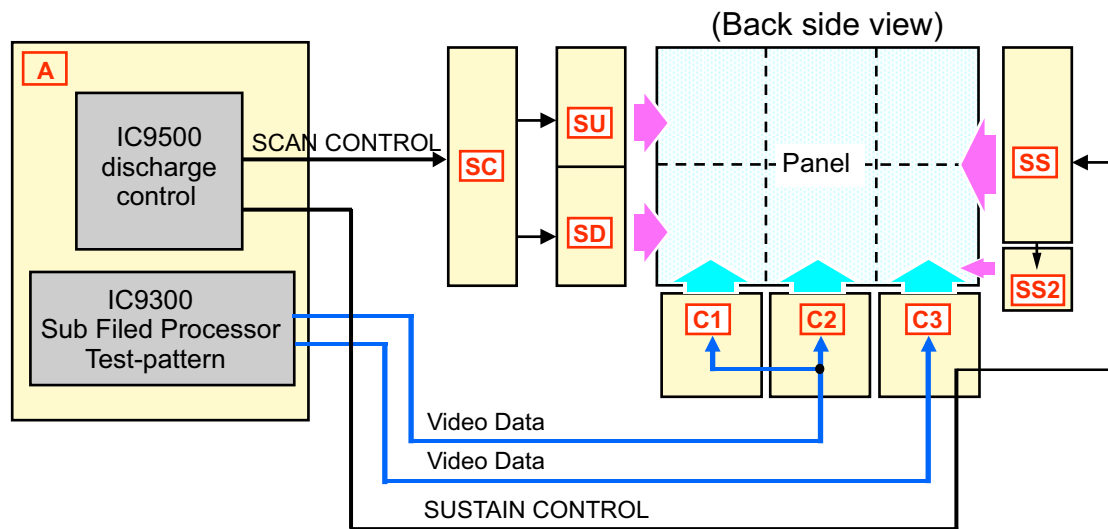
IC4510
: HDMI I/F, 10bit A/D
IC8001
: Peaks lite2p
(MAIN MPU+VIDEO PROCESSOR)
IC1100
: Genx8 (SYSTEM MPU)

IC9900
: PD2-M
[LVDS Receiver,
Sub Field Processor,
Data Driver Processor
Plasma AI]
IC9500
: FPGA (Discharge Control)
IC9003
: Genx6 (Panel Micom)

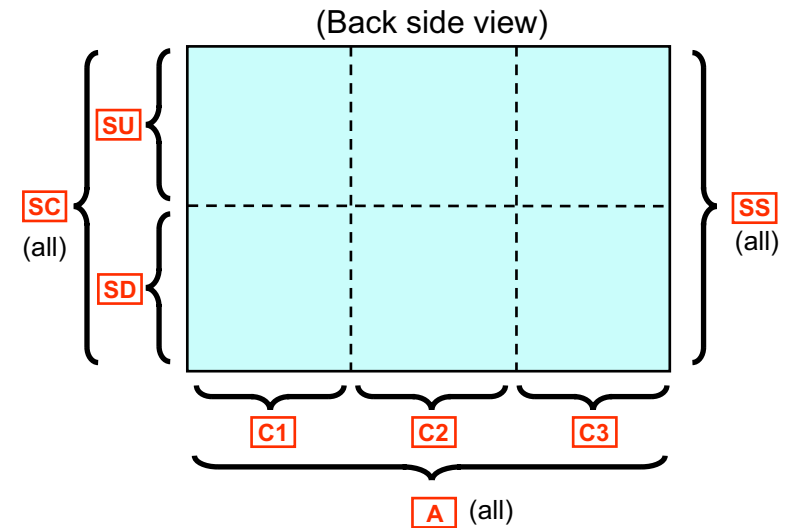
5. Troubleshooting

We know the possible defective board by picture trouble area.

<Display device block diagram>



<Relation of defective board and picture trouble area >



* In case of V10 series , A board change to D board.

5.Troubleshooting for picture trouble

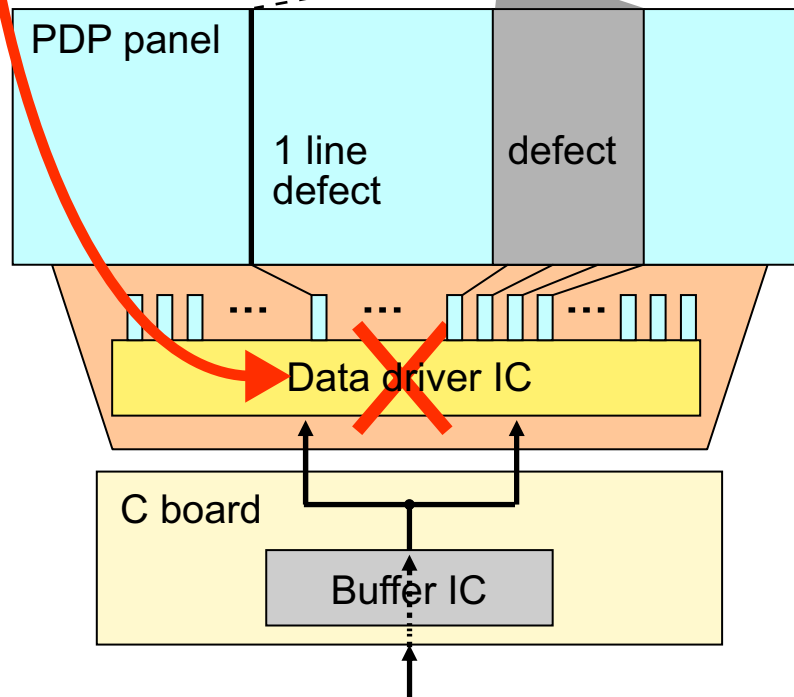
Picture trouble (diagnosis of vertical line)

PDP panel defective (Data driver IC defective)

Width is narrower than FPC

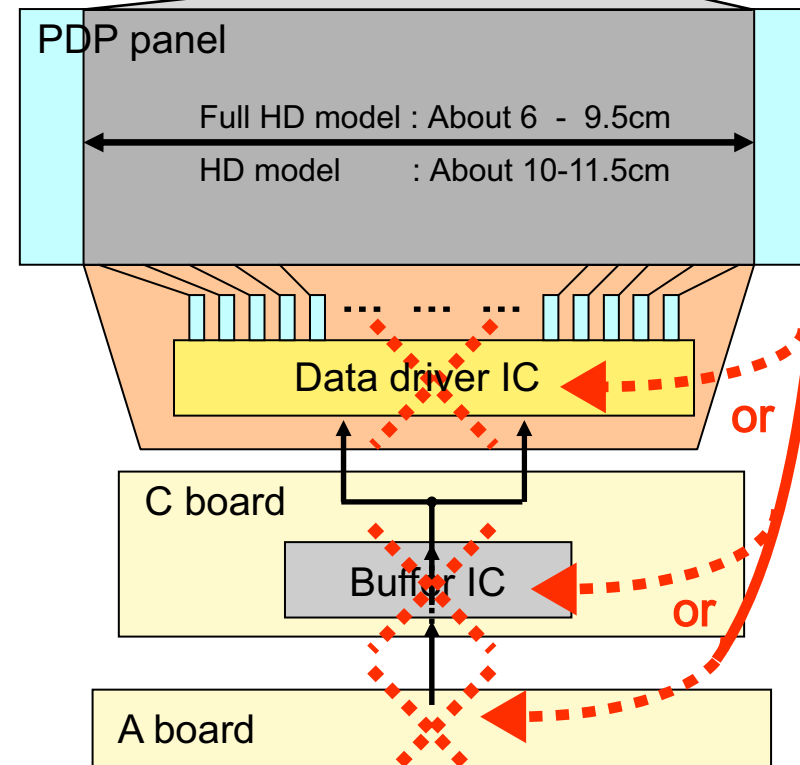


Data driver IC defect= PDP panel defect



Data driver IC or C or A board defective

Width is same as FPC

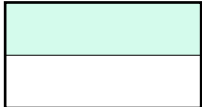
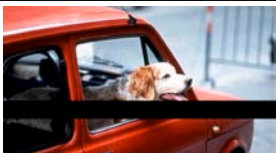
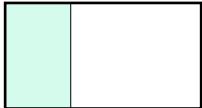
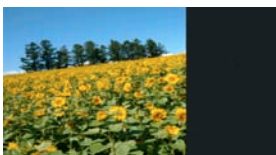


* In case of V10 series, A board change to D board.

5.Troubleshooting for picture trouble

Summary of picture trouble

< Some part of screen >

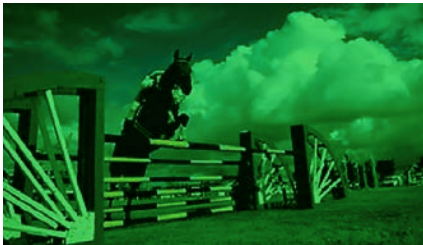
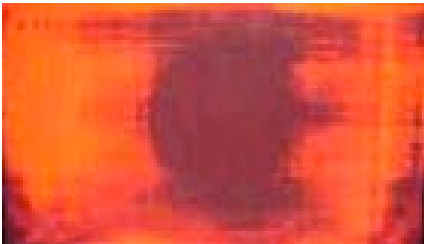
Symptom	Actual symptom	Defective board
Trouble at Upper or Lower half 	 	SU / SD board
Horizontal line (Upper or Lower side) 	 	SU / SD board or PDP panel
Trouble at Left or Center or Right part (42 inch : Left or Right half) 	 	C1-C3 board (42 inch : C1,C2)
Vertical line (Width is same as FPC) 	 	C or A board or PDP panel * In case of V10 series , A board change to D board.
Vertical line (Width is narrower than FPC) 	 	PDP panel
Regular bar (*1) 	 	A board * In case of V10 series , defective board is A board or D board.

(*1) In case of V10 series, we can judge A-board or D-board is failure by using Test Pattern.
Please refer to Page 22, 23.

5.Troubleshooting for picture trouble

Summary of picture trouble

< All area of screen >

Symptom	Actual symptom		Defective board
Irregular Color (*1)			A board * In case of V10 series , defective board is A board or D board.
All vertical line (*1)			A board * In case of V10 series , defective board is A board or D board.
Abnormal electric discharge	 		SC / SS board

(*1) In case of V10 series, we can judge A-board or D-board is failure by using Test Pattern.
Please refer to Page 22, 23.

<Purpose>

Test pattern is helpful to find the defective parts.

For example, if we can see the picture problem at all over the screen (Picture Noise, Full Vertical Line, Abnormal color), we can find signal processing problem or panel phosphor problem by using test pattern.

<Model>

PDP 2009 Models
(V10,G10,S10,X10 series)

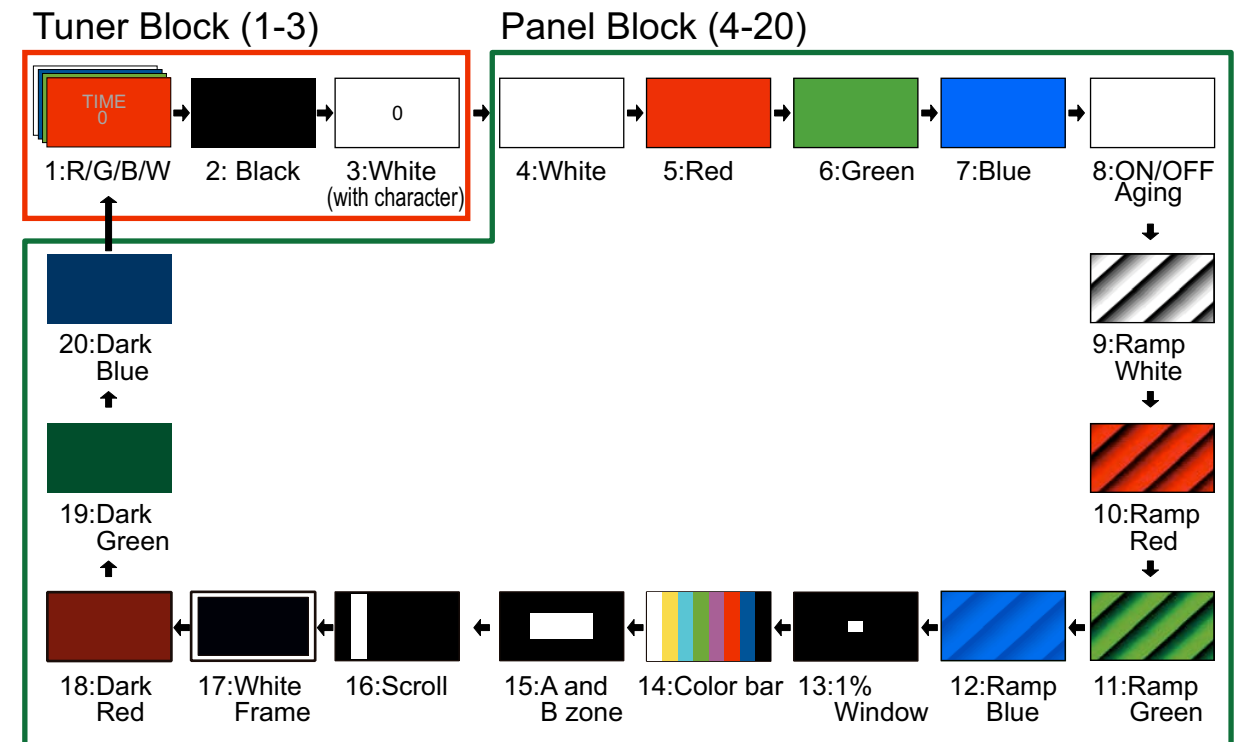
<Symptom>

Picture Noise, Full Vertical Line,
Abnormal color

<How to enter the Test Pattern>

1. While pressing "**VOLUME (-)**" button of the main unit, press "**0**" button of the remote control three times within 2 seconds.
2. Push button "**1**" of Remote Controller several times, and select "**Aging**" setting, then "**Test pattern**" will appear.
3. Push "**3**" button of Remote Controller to select the test pattern mode to forward.
4. Push "**4**" button of Remote Controller to select the test pattern mode to reverse.

<Test Pattern (Normal)>



<Diagnosis>

How to diagnose by using test pattern.

Abnormal picture
(Picture Noise, Full Vertical Line, Abnormal color)

(1) In case of V10 series

Test pattern (4-20)	Defective Block [Board]
Abnormal	Panel Block [D (SC/SS) Board]
Normal	Tuner Block [A Board]

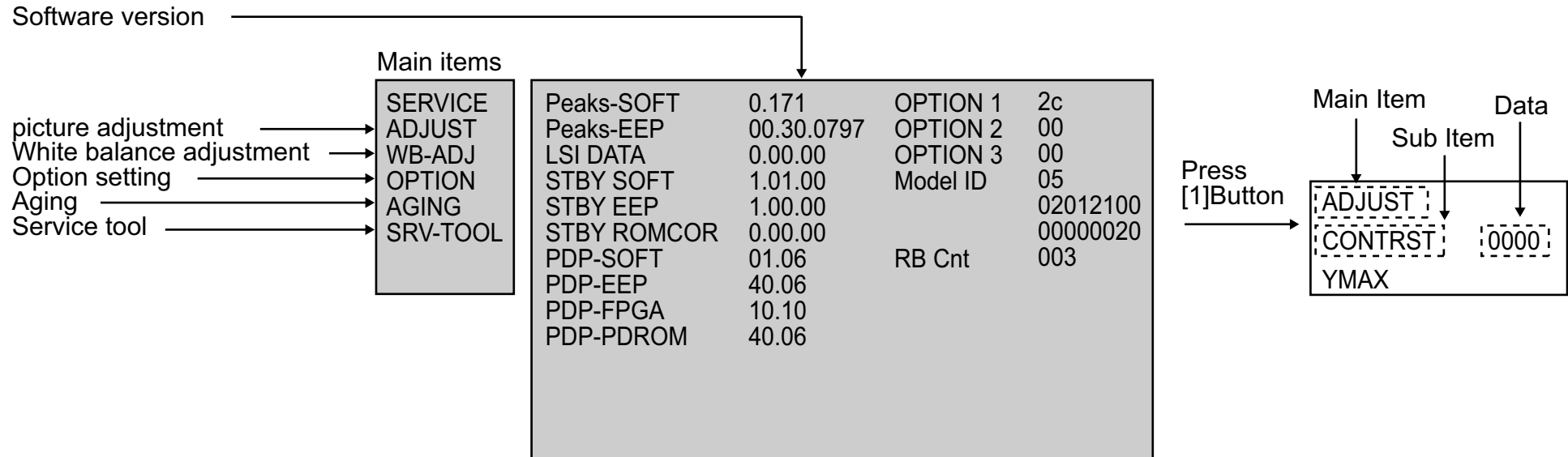
(2) In case of G10/S10/X10 series

Test pattern (4-20)	Defective Block [Board]
Abnormal	Panel Block [A (SC/SS) Board]
Normal	Tuner Block [A Board]

6. Service Information

<How to enter into Service Mode>

While pressing [VOLUME (-)] button of the main unit, press [i] button of the remote control three times within 2 seconds.



Key command

[1] button...Main items Selection in forward direction

[2] button...Main items Selection in reverse direction

[3] button...Sub items Selection in forward direction

[4] button...Sub items Selection in reverse direction

[VOL] button...Value of sub items change in forward direction (+), in reverse direction (-)

Press [OK] to memorize the value.

6. Service Information

(1) Service Mode (2/2)

<Service tool mode>

How to access

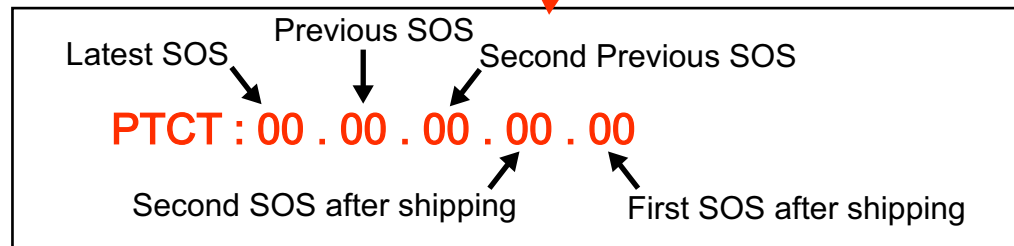
1. Select [SRV-TOOL] in Service Mode.
2. Press [OK] button on the remote control.

	SRV-TOOL	
Display of TD2Microcode version →	TD2Microcode:81c0000e	
Display of Flash ROM maker code →	Flash ROM : 1-227E	
Display of SOS History →	PTCT : 00.00.00.00.00	Time 00000:40 On/Off 00000221

POWER ON TIME, On/Off display position

Display of SOS History

SOS History (Number of LED blinking) indication.



POWER ON TIME, On/Off

Move the cursor to right low position and press [MUTE] button for 3sec.

Time 00000 : 40 On/Off 00000221
Hour Minute times

Note : This indication will not be cleared by either of the self-check or any command.

Exit

1. Disconnect the AC cord from wall outlet or switch off the power with the [POWER] button on the main unit.

<Contents>

As a convenient function for failure diagnosis, local maintenance function is installed to memorize log of error messages of digital broadcasting system.

By using this function analysis of troubles can be done.

<Available models>

2009 PDP models (only digital model)

<How to enter Local Maintenance display>

(1) Access SRV-TOOL display

Enter service mode, select SRV-TOOL, and push "OK" key by the remote control.

(2) Enter Log display of Local Maintenance.

By using four directions (UP, DOWN,RIGHT,LEFT), select upper-left cell of SRV-TOOL and push "OK" key for about three seconds.

The characters of Local Maintenance are indicated.

And press "OK" key again.

Log display of Local Maintenance starts.



- Escape from Local maintenance display ----- Switch off the [POWER] button.
- How to delete Log data ----- Set factory shipping conditions by self check. (refer to page 35)

<Log construction of Local Maintenance>

The explanation of log

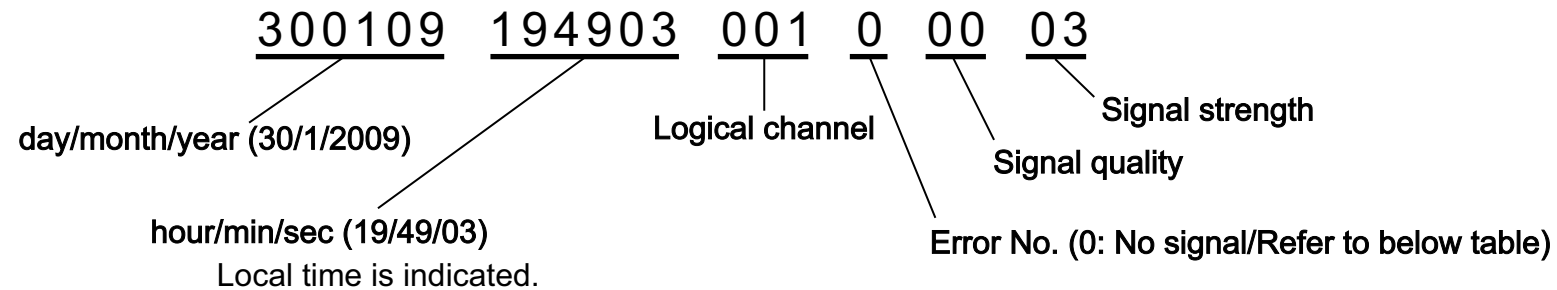
[2009 PAL digital models]

1. cec.log - - - For the design section to analyze
2. **err_panel.log** - - - log of error message of digital broadcasting, time, kind and date reception level
(refer to page 29)
3. pow_msg.log - - - For the design section to analyze
4. record1.log - - - For the design section to analyze
5. sig_msg.log - - - For the design section to analyze

<Log construction of Local Maintenance>

How to read log data

[**err_panel.log** data]



Kind of Error panel of Error No.

Error No.	Kind of Error panel	Remarks
0	NO SIGNAL	
1	NO SERVICE AVAILABLE	
2	NO VIDEO	
3	INVALID DVB CHANNEL	
4	ENCRYPTED	

<Data copy function of Local Maintenance Log to SD card>

Log of Local Maintenance can be copied by Data Copy function to SD card and log data can be confirmed by PC.

<Steps to Data copy to SD card (TV set ➡ SD card)>

1. Making "starting file" in SD card

According to the function to use, make pwd file to start.
And keep it to SD card.

pwd file name - - - localmainte.pwd

How to make pwd file :

Create new (blank) Text file and change file name.

2. Power ON TV set and insert SD card with pwd file.
Automatically, Data Copy function display appears.

Note) Keep only one kind of pwd file in SD card.
If there are several pwd files, it may not work.

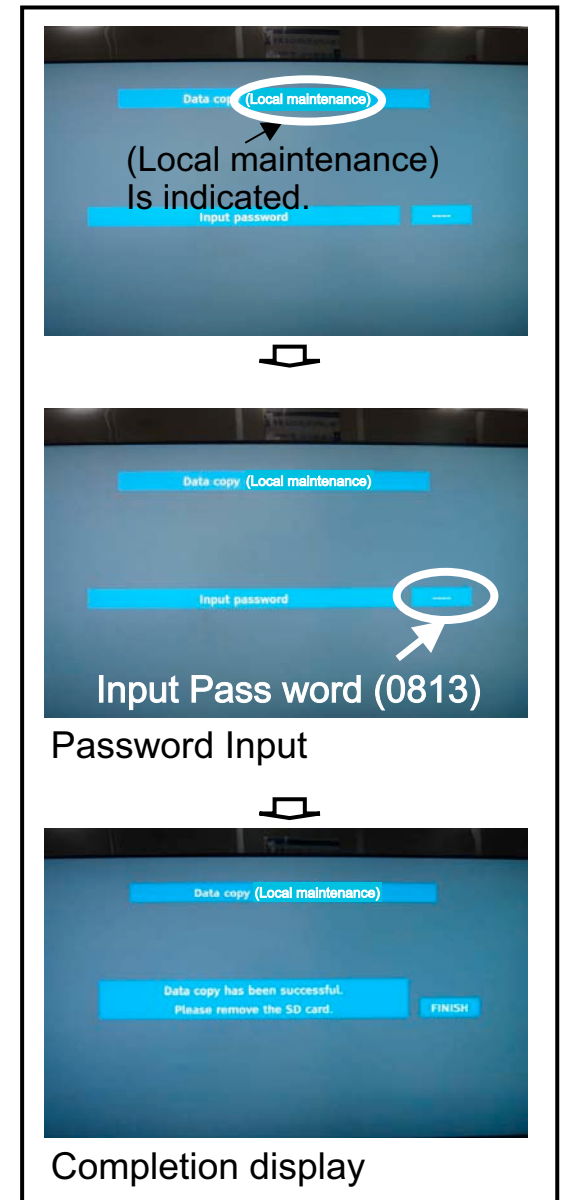
3. Input Pass word and perform Data Copy.
Input **Pass word (0813)** for Data copy to SD card and perform Data Copy.

4. Completion of Data Copy
After data copy completion is indicated, pull out SD card.
In SD card, new folder is made and in this folder, several logs are copied.

Note) No function to copy from SD card to TV set.

5. Power off the TV.

Note) By using PC, text data can be read.
And if data is not text data, change the suffix to txt or read by using the text editor.

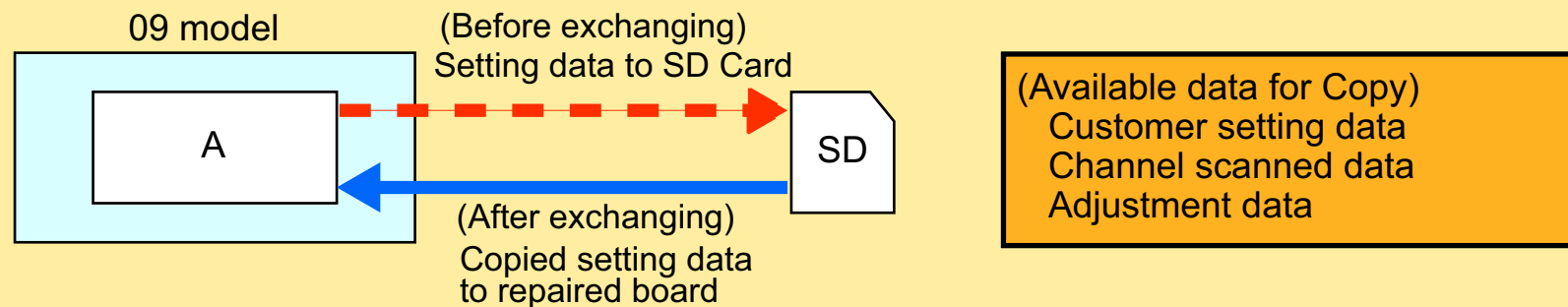


<From TV set to SD card>

There are two purposes.

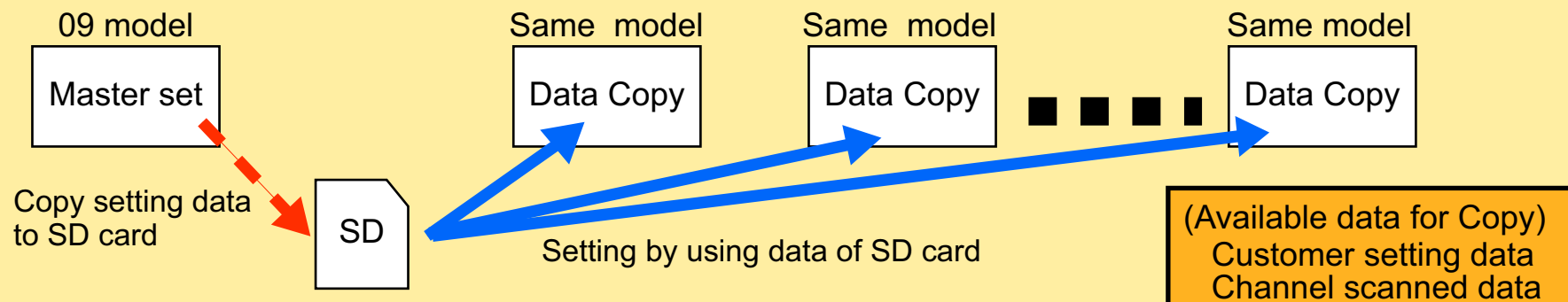
(a) Copy of setting data when exchanging repair board (A board)

When exchanging repair board customer setting data channel scanned data, and adjustment data before exchanging board data in TV is copied to SD card, and after exchanging repair board copied data in SD card can be copied to TV.



(b) Copy of hotel mode setting data

When hotel mode setting customer setting data, and channel scanned data of master set is copied to SD card, and to same models by using SD card data of master set is copied to many same models.



<From TV set to SD card>

[Preparation]

Make pwd file of (a) or (b) in SD card.

(Make new (empty) text file and change file name.)

	[pwd File name]
(a) For exchanging repair board	boardreplace.pwd
(b) For hotel mode setting	hotel.pwd

Note : Please make only 1 file ,for preventing operation error.

When making pwd file large letters should not be used.

<Steps of Data Copy to SD card (TV set → SD card)>

1. Power On TV set.
2. Insert SD card with pwd file to SD slot.
3. Automatically, Data Copy display will appear.
4. **Input Pass word** for Data copy to SD card by using remote control.

[Password for Data Copy]

(a) For exchanging repair board - - - - **2770**

(b) For hotel mode setting - - - - **4850**

5. Perform Data copy to SD card.

Information for reference

Time for Data copy (TV → SD card)

Euro/Asia model - - - 90 seconds max.

6. End of Data copy to SD card

After the completion display of

Data Copy appear, pull out SD card.

Even if SD card is not pulled out, the display will appear automatically.

Power Off TV set.

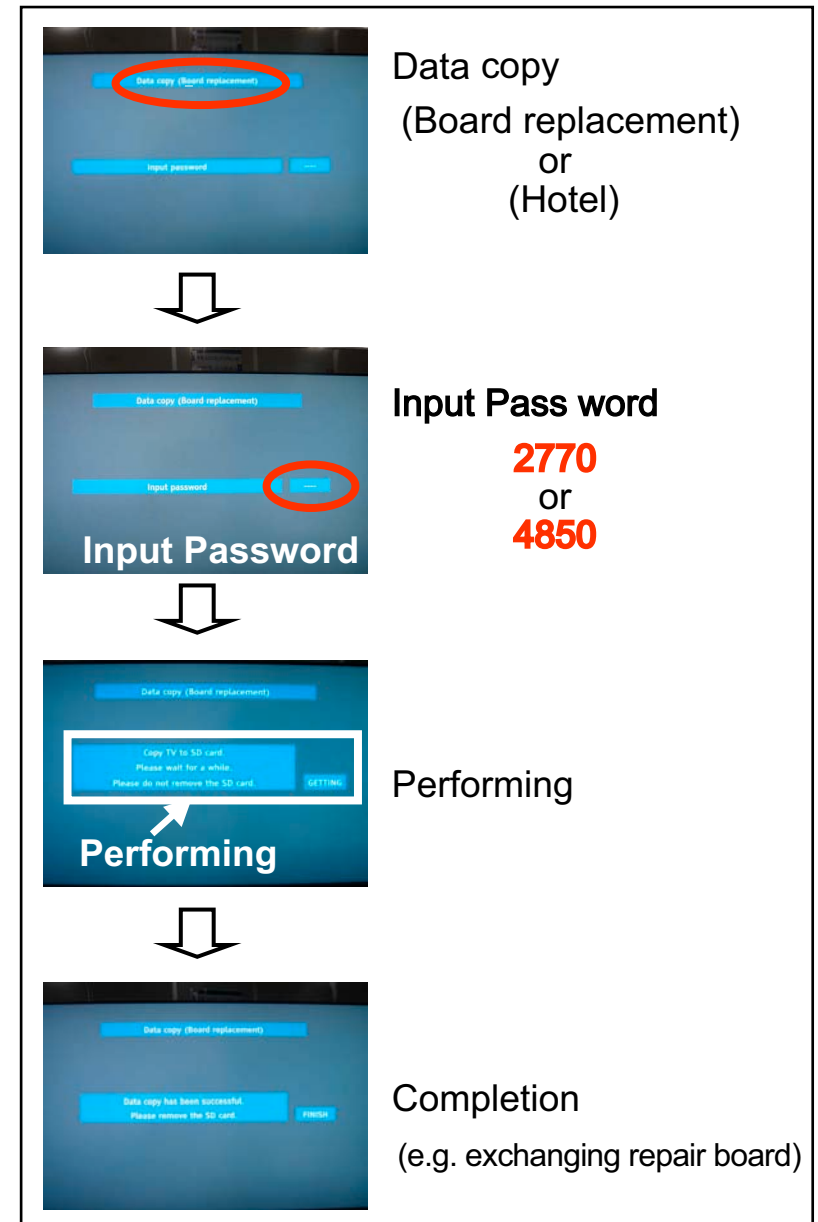
7. How to confirm Copy data

File data can be confirmed by PC.

When the following folder exists, data is pulled out.

Folder Name : (a) For exchanging repair boards - - - - **user_setup**
(After writing data, data is deleted.)

(b) For hotel mode setting - - - - **hotel**
(After writing data, data is not deleted.)



<Steps of Data Copy to TV set>

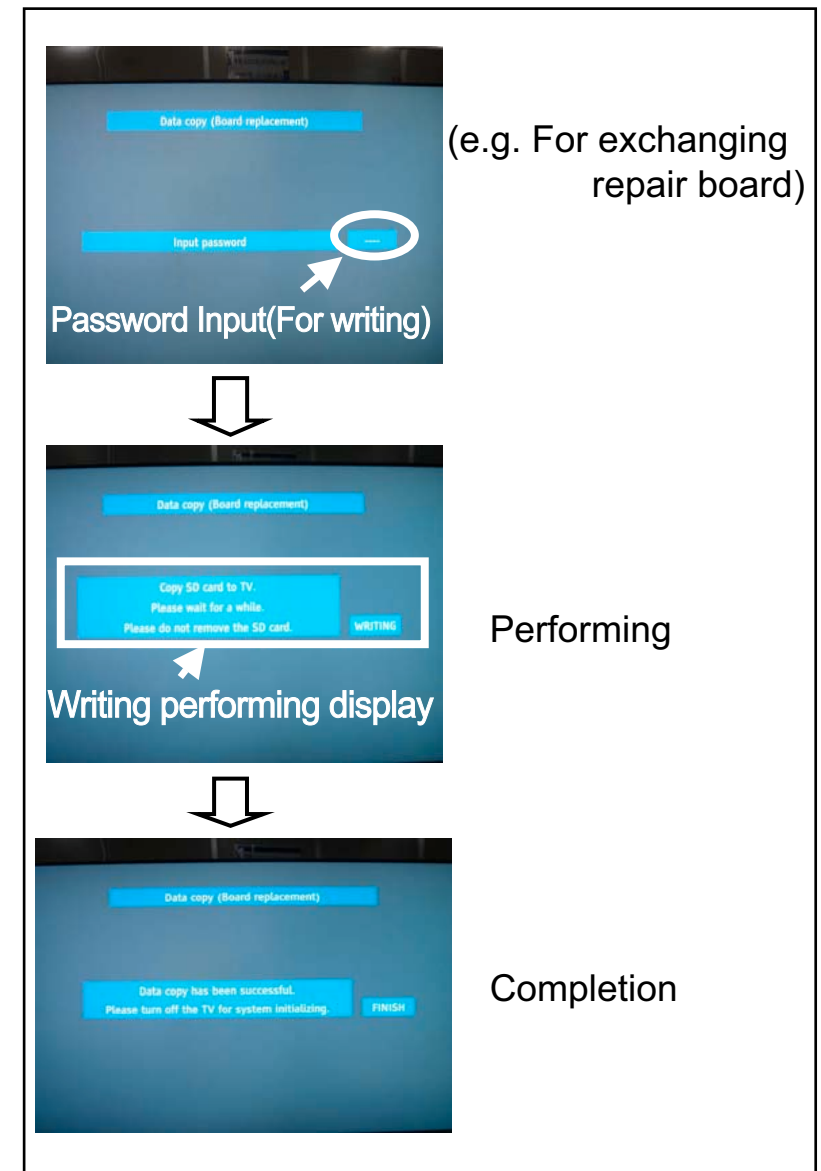
1. Power On TV set.
2. Insert SD card with Data to SD slot.
3. Automatically, Data Copy display will appear.
4. **Input Pass word** for Data copy to TV set by using remote control.

[Password for Data Copy]

- (a) For exchanging repair board - - - - 2771
- (b) For hotel mode setting - - - - 4851

5. Perform Data copy to TV set.
6. Completion of Data to TV set.
Completion of data Copy is displayed.
7. Pull out SD card.
Power OFF/ON by main switch.

Note: 1. Depending on the trouble of boards, function of Data copy for exchanging repair boards does not always work.
2. This function does not work with other model numbers.



<Check of the IIC bus lines>

1. How to access

Self-check indication only :

Produce TV reception screen, and while pressing [VOLUME (-)] button on the main unit, press [OK] button on the remote control for more than 3 seconds.

Self-check indication and forced to factory shipment setting :

Produce TV reception screen, and while pressing [VOLUME (-)] button on the main unit, press [MENU] button on the remote control for more than 3 seconds.

Exit :

Disconnect the AC cord from wall outlet or switch off the power with the [POWER] button on the main unit.

2. Screen display & Check Point

(1) < V10 Series > Screen display

_FHD SET		Panasonic 2009PDP	
		SELF CHECK COMPLETE	
ADV	OK	PEAKS-SOFT 0.171	SUM 1f40
ADAV	OK	PEAKS-EEP 00.30.0797	
TUN	OK	GENX-SOFT 1.01.00	Model ID 05
GENX	OK	GENX-EEP 1.00.00	02012100
MEM1	OK	GENX-ROMCOR 0.00.00	00000020
MEM2	OK	PDP-MCU 01.06	EDID ab 0515e5--
AVSW	OK	PDP-EEP 40.06	
GC3FS	OK	PDP-FPGA 10.10	
PDP-PANEL	OK	PDP-PDPOM 40.06	
OFDM	OK	FRC-EEP 00.00.0000	
TEMP	OK		
FRC	OK		
GC6	OK		
VIF	OK		

Check Point

Confirm the following parts if NG was displayed.

Display	Ref.No.	Description	P.C.B
ADV	IC4510	AD/HDMI	A-Board
ADAV	IC4510	Sound Processor	A-Board
TUN	TU2901	Tuner	A-Board
GENX	IC1100	GenX (STB MCU)	A-Board
MEM1	IC1101	EEPROM (GenX)	A-Board
MEM2	IC8502	EPPROM (Peaks)	A-Board
AVSW	IC3001	Audio/Video SW	A-Board
GC3FS	IC4001	Global core sub	A-Board
PDP-PANEL	IC9003	MICOM	D-Board
OFDM	IC8301	Digital demodulater	A-Board
TEMP	IC1000	Temp Sensor	A-Board
RFC	IC2600	Frame rate converter	A-Board
GC6	IC5100	Global core	A-Board
VIF	TU2901	Tuner	A-Board

6. Service Information

(4) Self-Check (2/2)

<Check of the IIC bus lines>

2.Screen display & Check Point

(2) < G10/S10/X10 Series > Screen display

FHD SET		Panasonic 2009PDP	
SELF CHECK COMPLETE			
ADV	OK	PEAKS-SOFT	0.171
ADAV	OK	PEAKS-EEP	00.30.0797
TUN	OK	GENX-SOFT	1.01.00
GENX	OK	GENX-EEP	1.00.00
MEM1	OK	GENX-ROMCOR	0.00.00
MEM2	OK	PDP-MCU	01.06
AVSW	OK	PDP-EEP	40.06
PDP-PANEL	OK	PDP-FPGA	10.10
OFDM	OK	PDP-PDPOM	40.06
TEMP	OK		
VIF	OK		
SUM		1f40	
Model ID		05	
		02012100	
		00000020	
EDID		ab 0515e5--	

Check Point

Confirm the following parts if NG was displayed.

Display	Ref.No.	Description	P.C.B
ADV	IC4510	AD/HDMI	A-Board
ADAV	IC4510	Sound Processor	A-Board
TUN	TU2901	Tuner	A-Board
GENX	IC1100	GenX (STB MCU)	A-Board
MEM1	IC1101	EEPROM (GenX)	A-Board
MEM2	IC8502	EPPROM (Peaks)	A-Board
AVSW	IC3001	Audio/Video SW	A-Board
PDP-PANEL	IC9003	MICOM	A-Board
OFDM	IC8301	Digital demodulater	A-Board
TEMP	IC1000	Temp Sensor	A-Board
VIF	TU2901	Tuner	A-Board

<Contents>

By using this function, even in the case of blackout, the results of Self Check can be confirmed.

<Available models>

2009 PDP models

<Steps>

1. Power on of TV set and insert the SD card. (**Starting file is not necessary.**)
2. After inserting SD card, perform Self Check according the method of Service Manual. (refer to page 35)
3. After the completion of Self Check, log file of results is automatically made.

File name is selfcheck.log.

If selfcheck.log is already in SD card, results are overwritten.

Note: For PAL models, when self check is performed with inserting SD card and results of Self check are OK, "SELF CHECK FAILED" is displayed.

42HD SET

Panasonic 2009PDP

SELF CHECK FAILED

ADVOK

ADAVOK

TUNOK

GENXOK

MEM1OK

MEM2OK

AVSWOK

PDP-PANELOK

OFDMOK

TEMPOK

FRCOK

VIFOK

PEAKS-SOFT0.171

PEAKS-EEP00.30.0797

GENX-SOFT1.01.00

GENX-EEP1.00.00

GENX-ROMCOR0.00.00

PDP-MCU01.06

PDP-EEP40.06

PDP-FPGA10.10

PDP-PD2-M40.06

SUM1f40

Model ID05

02012100

00000020

EDIDE2 2b1b0bfb

SD CARD INSERTED!!

When SD card is inserted and self check is OK, "SELF CHECK FAILED" is displayed.

Warning Comment
"SD CARD INSERTED!!" is displayed.

(When SD card is inserted.)

6. Service Information

(5) Copy of results of Self Check to SD card (2/2)

<How to read Self check. Log file>

“ File contents ”

[yy/mm/dd hh:mm:ss] 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

yy: year(Two last digits),
mm: month,
dd: day,
hh: hour,
mm: minute,
ss: second

No.1-19

Self check result
00 or 01 : OK
FF : NG or Not available for Self check

Items of Self check:Refer to the table below

[PAL models]

No.	Self check items	No.	Self check items
1	exec flag (Self check 01)	11	mem2 (EEPROM for Peaks)
2	ZWEI	12	pdppnl (PDP Panel module)
3	GC3FS	13	OFDM
4	adv (ADV7495A)	14	Temperature Sensor
5	vsw (Video SW)	15	FRC
6	adav(ADAV4622)	16	GC6P
7	avsw (AV SW)	17	VIF
8	Tun (Main Tuner)	18	lan
9	genx (Genx)	19	usb
10	mem1 (EEPROM for Genx)	—	—

6. Service Information

(6) CSP/BGA REPAIR PARAMETER SHEET

<For PDP series in 2009>

The following parameter is fundamental data.

Therefore, it will change according to the following factors and please adjust precise value with your environment and equipment .

1. Air-conditioner 2. Personal skill 3. Specification of Tools etc.

Tools for experiment
Company : Hakko Co.,Ltd.
Model no. : Hakko852 / Hakko853

Applicable
model

*PDP series in 2009 year ;
The following ICs are used as common parts on several boards (PCBs) in models for all of the world. And the following parameter does not change depending on module (PCB).
Therefore, please check IC size and circuit No. of replacing IC and use an appropriate parameter as below.

	Type of Definition				HD	HD	FHD	FHD	FHD/HD	FHD	FHD/HD	FHD/HD	FHD/HD	FHD	FHD	FHD	
	Circuit No.				IC9900	IC9901	IC9300	IC9902&3	IC8001	IC8001	IC8002&3	IC8002&3	IC4510	IC5100	IC5001&2	IC2600	
	IC size				27*27	12*12	35*35	12*8	27*27	31*31	12*10	12*8	19*19	31*31	12*8	23*23	
	Profile No.				Profile4	Profile3	Profile1	Profile3	Profile4	Profile4	Profile3	Profile3	Profile2	Profile5	Profile3	Profile4	
Kind of work	Item 1	Item 2	Item 3	unit													
Various set up	Initial set up	Nozzle Part No.				A1129B	A1126B	A1203B	A1126B	A1129B	A1129B	A1126B	A1126B	A1127B	A1265B	A1126B	A1129B
		Nozzle Size				31*31	15*15	35*35	15*15	31*31	31*31	15*15	15*15	19*19	32*32	15*15	31*31
		Height from nozzle to C.B.A.	Pre-heating	mm	40	30	40	30	40	40	30	30	30	40	30	40	
			Main heating	mm	4	3	4	3	4	4	3	3	3	4	3	4	
			Cool down	mm	40	3	40	3	40	40	3	3	3	40	3	40	
	Rough adjustment	Temperature	Upper side	deg	420	420	445	420	420	420	420	420	415	440	420	420	
			Downer side	deg	235	235	235	235	235	235	235	230	235	235	235		
		Blow level		l/min	20	12	22	12	20	20	12	12	12	20	12	20	
		Heat time		s	240	210	240	210	240	240	210	210	180	240	210	240	
	Fine adjustment	Temperature	Upper side	deg	370+5	360+5	370+5	360+5	370+5	370+5	360+5	360+5	375+5	370+5	360+5	370+5	
			Downer side	deg	265+5	265+5	265+5	265+5	265+5	265+5	265+5	265+5	265+5	265+5	265+5	265+5	
Repair work	Time control	Heat time	Pre-heating	s	180	155	180	155	180	180	155	155	140	180	155	180	
			Main heating	s	60	55	60	55	60	60	55	55	40	60	55	60	
		Cool down time			s	over 30	over 30	over 30	over 30	over 30	over 30	over 30	over 30	over 30	over 30	over 30	over 30
		Remark for each IC					Profile4	Profile3	Profile1	Profile3	Profile4	Profile4	Profile3	Profile3	Profile2	Profile5	Profile3
Additional Information	1. If there are some parts (Crystal, capacitor, Tuner) near the target IC, cover them with heat-resistant tape.																